



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
SUL
Component
Starboard Reduction Gear
Fluid
CHEVRON DELO 400 SYNTHETIC 5W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0060673	MW0031841	MWM636809
Sample Date		Client Info		27 Jun 2024	05 Jun 2023	30 Mar 2021
Machine Age	hrs	Client Info		0	0	3358
Oil Age	hrs	Client Info		0	0	921
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				ABNORMAL	ABNORMAL	SEVERE

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	108	142	▲ 192
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	<1
Titanium	ppm	ASTM D5185m		<1	2	<1
Silver	ppm	ASTM D5185m		0	0	2
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>100	0	<1	3
Copper	ppm	ASTM D5185m	>50	▲ 70	▲ 64	▲ 458
Tin	ppm	ASTM D5185m	>10	<1	3	3
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

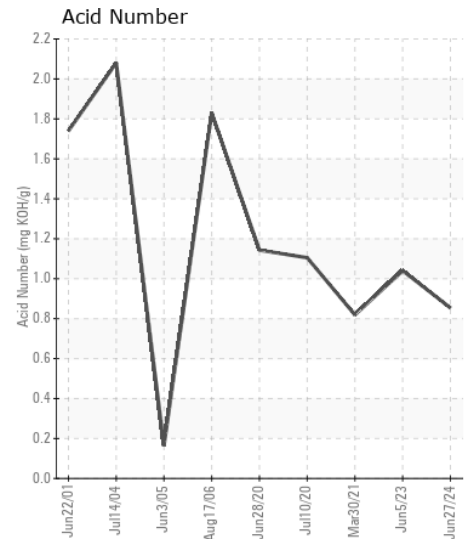
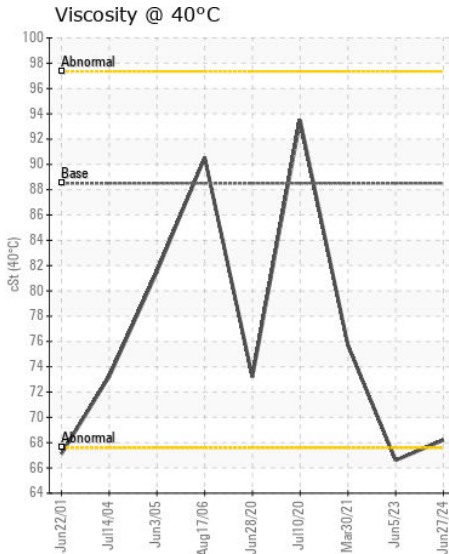
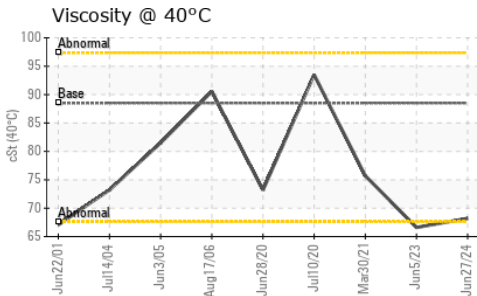
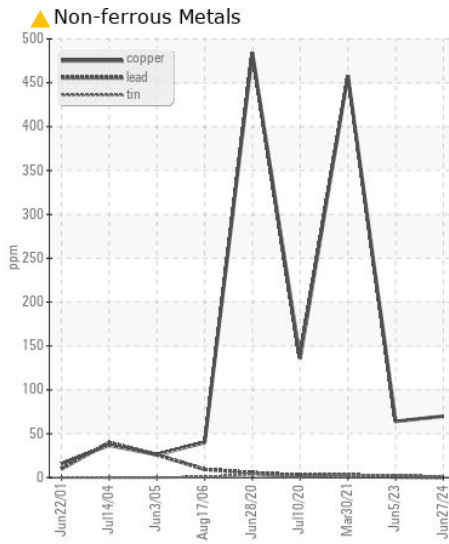
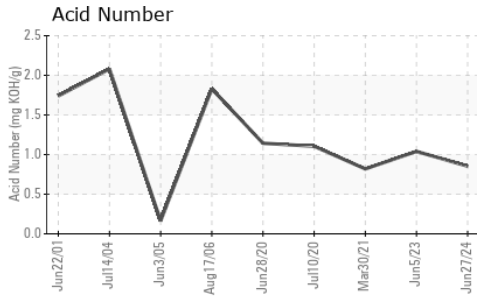
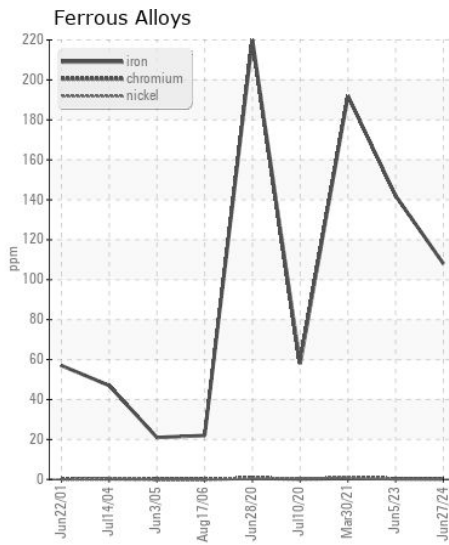
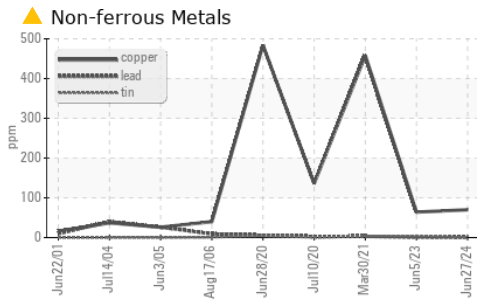
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	5	10	8
Potassium	ppm	ASTM D5185m	>20	5	15	0
Water		WC Method	>0.1	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	15	0
Boron	ppm	ASTM D5185m		359	340	586
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		111	96	105
Manganese	ppm	ASTM D5185m		<1	2	2
Magnesium	ppm	ASTM D5185m		627	623	523
Calcium	ppm	ASTM D5185m		1460	1714	1648
Phosphorus	ppm	ASTM D5185m	1150	731	803	984
Zinc	ppm	ASTM D5185m	1270	839	899	1125
Sulfur	ppm	ASTM D5185m	2900	2537	3949	2746
Acid Number (AN)	mg KOH/g	ASTM D8045		0.854	1.04	0.819
Visc @ 40°C	cSt	ASTM D445	88.5	68.2	66.6	75.7



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0060673
Lab Number : 06227669
Unique Number : 11111162
Test Package : MAR 2

Received : 03 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 06 Jul 2024 - Don Baldrige

AMERICAN RIVER TRANSPORTATION CO.
 PO BOX 585
 CASSVILLE, WI
 US 53806

Contact: Dale Grimshaw
 Dale.Grimshaw@adm.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T: (608)725-2311

F: